AMENDMENTS TO THE DRAWINGS

The attached sheets of replacement formal drawings include changes to Figure 1 (total of 2 sheets) and Figure 3 (total of 166 sheets) as originally filed.

Replacement sheets for Figures 1A-1B replace the originally filed Figure 1. Replacement sheets for Figures 3A-3UUUUUU replace the originally filed Figure 3. Because the header has been added to the replacement formal drawings, the text of the drawings has carried over onto new pages and new sheets 3VVVVVV-3HHHHHHH are added. No new matter has been added.

Attachments: One hundred and fifty-three (153) Replacement Sheets of drawings
Thirteen (13) New Sheets of drawings
Ten (10) Annotated Sheets of drawings showing changes

REMARKS

Reconsideration is respectfully requested. Claims 7, 8, 10, 25, 26, 28, 29, 31, 44-46, and 49-52 are pending. Claims 1-6, 9, 11-24, 27, 30, 32-43, 47, and 48 are canceled. Claims 11, 29, 44, 47, and 50 are amended. No new matter has been added due to the amendments. Amendments to and cancellation of the claims do not affect inventorship.

Applicants have not dedicated or abandoned any unclaimed subject matter and moreover have not acquiesced to any rejections made by the Patent Office. Applicants reserve the right to pursue prosecution of any presently excluded claim embodiments in future continuation and/or divisional applications.

Amendment to the Specification

With regards to paragraphs [0049], [0069] and [0120] Applicants note that the amendments are consistent with the sequence shown in Figures 1 and 3. As such, the amendments do not add new matter and Applicants respectfully request the amendments be entered.

Claim Amendment

Claim 7 is amended. Support is found, for example, in original claims 11 and 12. Claim 25 is amended. Support is found, for example, in original claims 29 and 30. Claim 50 is amended to correct clerical error. Claim 44 is amended for technical clarity.

Information Disclosure Statement

The Examiner states that no information disclosure statement can be found in the application file. Applicants respectfully submit that an IDS was filed February 7, 2007.

Drawings

Figures 1 and 3 of the drawings are amended in accordance with 37 CFR 1.84(u)(1) as requested by the Examiner. Applicants respectfully request the amendments be entered and the objections be withdrawn.

Sequence Compliance

The Examiner states that the application fails to comply with the requirement of 37 CFR 1.821 through 1.825.

The Specification has been amended to include the sequence identifier in the Brief Description of Drawings with regard to the amino acid sequence disclosed in Figure 3. As such, Applicants submit that the application, as amended, complies with the requirement of 37 CFR 1.821 through 1.825, and respectfully request the objection be withdrawn.

Claim Objections

Claims 11 and 29 stand objected to as using inconsistent terminology. Claims 11 and 29 are cancelled, rendering the objections moot.

Claim 50 stands objected to as not ending in a period. Applicants have amended claim 50 to add a period.

As such, applicants respectfully request the objections be withdrawn.

Claims Rejections - 35 U.S.C. § 112, Second Paragraph

Claims 10, 28, 45-47, and 49-52 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, the Examiner states that claims 10 and 20 are indefinite in the recitation of "resolution less than 3.0 Angstroms" as it is unclear as to whether the term "less than" is meant to limit the resolution or Angstrom value.

Claim 47 is cancelled, rendering the rejection moot.

Claims 10 and 28 are amended to recite "to a resolution having a value less than 3.0 Angstrom." As such, it is clear the term "less than" is to limit the resolution. Applicants respectfully request the rejection on this basis be withdrawn.

The Examiner also states that claim 45, and claims 46-47 and 49-52 dependent therefrom, recite a method step of "performing rational drug design using the solved structure," and neither the specification nor the claims define the term "rational drug design." Applicants respectfully traverse.

It is well known in the art that rational drug design is an approach that uses information about the structure of a drug receptor or one of its natural ligands to identify or create candidate drugs. Moreover,

the instant application discloses that "inhibitory or other HDAC-2 binding compounds may be designed as a whole or "*de novo*" using either an empty binding site or optionally including some portion(s) of a known inhibitor(s)." Paragraph [0178]. The instant application further lists references that provide more details information about rational drug design and incorporated them by reference. See, e.g. paragraph [0179]. Because the term "rational drug design" is well known in the art, and a skilled artisan would know how to perform a "rational drug design," it is unnecessary for the Applicants to define its meaning. As such, Applicants respectfully request the rejection on this basis be withdrawn.

Claims Rejections - 35 U.S.C. § 112, First Paragraph

I. New Matter

Claims 8, 10, 26, 28 and 46 stand rejected under 35 U.S.C. § 112, first paragraph, as containing new matter. Applicants respectfully traverse.

Claims 8, 26, 46 are rejected as containing new matter because of the recitation of "trimer." Applicants respectfully submit that this limitation is clearly supported by the specification which discloses that: "[d]uring structure determination... it was realized that the asymmetric unit comprised three HDAC-2-Zn^{2+}-TSA molecules." As such, this limitation is not new matter. Applicants respectfully request the rejection on this basis be withdrawn.

Claims 10 and 28 are rejected as containing new matter because in the previous response they are amended to recite "less than 3.0 Angstrom." Claims 10 and 28 are amended to recite "to a resolution having a value less than 3.0 Angstrom." The amendments are supported by the original claims 10 and 28. As such, Applicants respectfully request the rejection on this basis be withdrawn.

II. Written Description and Enablement

Claims 7, 8, 10-12, 25, 26, 28-31, 45-47, and 49-52 stand rejected under 35 U.S.C. § 112, first paragraph as failing to comply with the written description and enablement requirement. Applicants respectfully traverse.

Claims 11, 12, 29, and 30 have been canceled, rendering the rejections moot.

With regards to claims 7 and 25 (and claims dependent therefrom), the claims have been amended to recite the space group and unit cell, and as such, Applicants believe the rejections under 112, first paragraph for lacking written description and enablement should be withdrawn.

With regards to claim 44, the application meets the written description requirement because the application is sufficient to show that the inventor possessed the claimed invention. Applicants respectfully direct Examiner's attention to Example 13 of *Synopsis of Application of Written Description Guidelines* ("Guidelines").

Claim 1 of Example 13 claims "A isolated protein having SEQ ID NO: 3," where the specification has a working example showing the isolated protein was sequenced and determined to consist of SEQ ID NO:3. As stated in the Guidelines:

> A search of the prior art indicates that SEQ ID NO: 3 is novel and nonobvious. The claim is directed to a genus of proteins that comprise SEQ ID NO :3. One member of the genus, SEQ ID NO: 3, is described by a complete structure.

The Guidelines go on to conclude:

> The claimed subject matter is adequately described. A rejection under the written description requirement should not be entered.

Applicants submit that the instant application is substantial identical to Example 13. As such, instant claim 44 meet the written description requirement, and the rejection on this basis should be withdrawn.

Applicants further submit that the instant application also meets the enablement requirement because, as discussed above, the instant application not only discloses working examples, but also discloses how to make variants. The disclosure, taken in view of the general knowledge, enables a skilled artisan to practice the claimed invention without undue experimentation. As such, the rejection based on lacking of enablement is improper and should be withdrawn.

Claims Rejections - 35 U.S.C. § 102

Claim 44 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Venter (U.S. Patent 6,812,339) ("*Venter*"). Claim 44 stand rejected under 35 U.S.C. § 102(b) as being anticipated by GenBank Accession Number Q92769, GI:3023939. Applicants respectfully traverse.

For an anticipation rejection under 35 U.S.C. § 102 to be proper, a single reference must disclose each and every element of a claim. *In re Paulsen*, 31 USPQ2d 1671, 1673 (Fed. Cir. 1994); M.P.E.P. § 2131 (citing *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Claim 44 recites "A protein consisting of SEQ ID NO:5." The specification discloses that SEQ ID NO:5 has 405 amino acids, and is generated by limited proteolysis of the full length HDCA-2

(residues 1-448 of SEQ ID NO:1) protein fused with 6-histidine tag at the C-terminus. See paragraph [0211].

In contrast, *Venter* discloses a protein that is 556 amino acids long, thus is different from the claimed "protein consisting of SEQ ID NO:5." Similarly, the protein disclosed in the Genbank entry is 488 amino acids long, and thus is also different from the claimed "protein consisting of SEQ ID NO:5." As such, neither of the references disclose the "protein consists of SEQ ID NO:5" as claim 44 requires.

Because the references do not teach each and every limitation of claim 44, they can not anticipate claim 44. As such, Applicants respectfully request the rejections on this basis be withdrawn.

Claims Rejections - 35 U.S.C. § 101

Claim 44 stand rejected under 35 U.S.C. § 101 on the basis that the claimed the invention is directed to no-statutory subject matter.

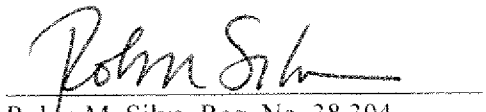
Claim 44 is amended to recite "A protein consisting of SEQ ID NO:5." As such, applicants submit that claim 44, as amended, is directed to statutory subject matter and respectfully request the rejection be withdrawn.

CONCLUSION

Applicants respectfully submit that the claims are now in condition for allowance and early notification to that effect is respectfully requested. If the Examiner feels there are further unresolved issues, the Examiner is respectfully requested to phone the undersigned at (415) 442-1000.

Respectfully submitted,

Dated: 3/1/07

By: 

Robin M. Silva, Reg. No. 38,304
Filed Under 37 C.F.R. § 1.34

Customer Number: 67374
Morgan, Lewis & Bockius LLP
One Market, Spear Street Tower
San Francisco, CA 94105
Telephone: (415) 442-1000
Facsimile: (415) 442-1001

FIGURE 1A

Amino acid sequence for full length human HDAC-2
~~[SEQ. ID No. 1]~~ [SEQ ID NO:1]

```
----MAYSQGGGKKKVCYYYDGDIGNYYYGQGHPMKPHRIRMTHNLLLNYGLYRKMEIYR  60
PHKATAEEMTKYHSDEYIKFLRSIRPDNMSEYSKQMQRFNVGEDCPVFDGLFEFCQLSTG  120
GSVAGAVKLNRQQTDMAVNWAGGLHHAKKSEASGFCYVNDIVLAILELLKYHQRVLYIDI  180
DIHHGDGVEEAFYTTDRVMTVSFHKYGEYFPGTGDLRDIGAGKGKYYAVNFPMRDGIDDE  240
SYGQIFKPIISKVMEMYQPSAVVLQCGADSLSGDRLGCFNLTVKGHAKCVEVVKTFNLPL  300
LMLGGGGYTIRNVARCWTYETAVALDCEIPNELPYNDYFEYFGPDFKLHISPSNMTNQNT  360
PEYMEKIKQRLFENLRMLPHAPGVQMQAIPEDAVHEDSGDEDGEDPDKRISIRASDKRIA  420
CDEEFSDSEDEGEGGRRNVADHKKGAKKARIEEDKKETEDKKTDVKEEDKSKDNSGEKTD  480
TKGTKSEQLSNP                                                  488
```

Human cDNA sequence encoding HDAC-2
~~[SEQ. ID No. 2]~~ [SEQ ID NO:2]

```
ATGGGATCCATGGCGTACAGTCAAGGAGGCGGCAAAAAAAAAGTCTGCTACTACTACGAC  60
GGTGATATTGGAAATTATTATTATGGACAGGGTCATCCCATGAAGCCTCATAGAATCCGC  120
ATGACCCATAACTTGCTGTTAAATTATGGCTTATACAGAAAAATGGAAATATATAGGCCC  180
CATAAAGCCACTGCCGAAGAAATGACAAAATATCACAGTGATGAGTATATCAAATTTCTA  240
CGGTCAATAAGACCAGATAACATGTCTGAGTATAGTAAGCAGATGCAGAGATTTAATGTT  300
GGAGAAGATTGTCCAGTGTTTGATGGACTCTTTGAGTTTTGTCAGCTCTCAACTGGCGGT  360
TCAGTTGCTGGAGCTGTGAAGTTAAACCGACAACAGACTGATATGGCTGTTAATTGGGCT  420
GGAGGATTACATCATGCTAAGAAATCAGAAGCATCAGGATTCTGTTACGTTAATGATATT  480
GTGCTTGCCATCCTTGAATTACTAAAGTATCATCAGAGAGTCTTATATATTGATATAGAT  540
ATTCATCATGGTGATGGTGTTGAAGAAGCTTTTTATACAACAGATCGTGTAATGACGGTA  600
TCATTCCATAAATATGGGGAATACTTTCCTGGCACAGGAGACTTGAGGGATATTGGTGCT  660
GGAAAAGGCAAATACTATGCTGTCAATTTTCCAATGAGAGATGGTATAGATGATGAGTCA  720
TATGGGCAGATATTTAAGCCTATTATCTCAAAGGTGATGGAGATGTATCAACCTAGTGCT  780
GTGGTATTACAGTGTGGTGCAGACTCATTATCTGGTGATAGACTGGGTTGTTTCAATCTA  840
ACAGTCAAAGGTCATGCTAAATGTGTAGAAGTTGTAAAAACTTTTAACTTACCATTACTG  900
ATGCTTGGAGGAGGTGGCTACACAATCCGTAATGTTGCTCGATGTTGGACATATGAGACT  960
GCAGTTGCCCTTGATTGTGAGATTCCCAATGAGTTGCCATATAATGATTACTTTGAGTAT  1020
TTTGGACCAGACTTCAAACTGCATATTAGTCCTTCAAACATGACAAACCAGAACACTCCA  1080
GAATATATGGAAAAGATAAAACAGCGTTTGTTTGAAAATTTGCGCATGTTACCTCATGCA  1140
CCTGGTGTCCAGATGCAAGCTATTCCAGAAGATGCTGTTCATGAAGACAGTGGAGATGAA  1200
GATGGAGAAGATCCAGACAAGAGAATTTCTATTCGAGCATCAGACAAGCGGATAGCTTGT  1260
GATGAAGAATTCTCAGATTCTGAGGATGAAGGAGAAGGAGGTCGAAGAAATGTGGCTGAT  1320
CATAAGAAAGGAGCAAAGAAAGCTAGAATTGAACAAGATAAGAAAGAAACAGAGGACAAA  1480
AAAACAGACGTTAAGGAAGAAGATAAATCCAAGGACAACAGTGGTGAAAAAACAGATACC  1540
AAAGGAACCAAATCAGAACAGCTCAGCAACCCCGGGCATCACCATCACCATCACTAA     1597
```

FIGURE 1B

Amino acid sequence for full length human HDAC-2 with a C-terminal 6x-histidine tag
~~[SEQ. ID No. 3]~~ [SEQ ID NO:3]
(6x-histidine tag is underlined)

```
----MAYSQGGGKKKVCYYYDGDIGNYYYGQGHPMKPHRIRMTHNLLLNYGLYRKMEIYR  60
PHKATAEEMTKYHSDEYIKFLRSIRPDNMSEYSKQMQRFNVGEDCPVFDGLFEFCQLSTG  120
GSVAGAVKLNRQQTDMAVNWAGGLHHAKKSEASGFCYVNDIVLAILELLKYHQRVLYIDI  180
DIHHGDGVEEAFYTTDRVMTVSFHKYGEYFPGTGDLRDIGAGKGKYYAVNFPMRDGIDDE  240
SYGQIFKPIISKVMEMYQPSAVVLQCGADSLSGDRLGCFNLTVKGHAKCVEVVKTFNLPL  300
LMLGGGGYTIRNVARCWTYETAVALDCEIPNELPYNDYFEYFGPDFKLHISPSNMTNQNT  360
PEYMEKIKQRLFENLRMLPHAPGVQMQAIPEDAVHEDSGDEDGEDPDKRISIRASDKRIA  420
CDEEFSDSEDEGEGGRRNVADHKKGAKKARIEEDKKETEDKKTDVKEEDKSKDNSGEKTD  480
TKGTKSEQLSNPGHHHHHH                                           495
```

Amino acid sequence for CLEC fragment of human HDAC-2
~~[SEQ. ID No. 4]~~ [SEQ ID NO:4]

```
-------SQGGGKKKVCYYYDGDIGNYYYGQGHPMKPHRIRMTHNLLLNYGLYRKMEIYR  60
PHKATAEEMTKYHSDEYIKFLRSIRPDNMSEYSKQMQRFNVGEDCPVFDGLFEFCQLSTG  120
GSVAGAVKLNRQQTDMAVNWAGGLHHAKKSEASGFCYVNDIVLAILELLKYHQRVLYIDI  180
DIHHGDGVEEAFYTTDRVMTVSFHKYGEYFPGTGDLRDIGAGKGKYYAVNFPMRDGIDDE  240
SYGQIFKPIISKVMEMYQPSAVVLQCGADSLSGDRLGCFNLTVKGHAKCVEVVKTFNLPL  300
LMLGGGGYTIRNVARCWTYETAVALDCEIPNELPYNDYFEYFGPDFKLHISPSNMTNQNT  360
PEYMEKIKQRLFENLRMLPHAPGVQ                                     381
```

Amino acid sequence for immobilized Trypsin fragment of human HDAC-2
~~[SEQ. ID No. 5]~~ [SEQ ID NO:5]

```
----MAYSQGGGKKKVCYYYDGDIGNYYYGQGHPMKPHRIRMTHNLLLNYGLYRKMEIYR  60
PHKATAEEMTKYHSDEYIKFLRSIRPDNMSEYSKQMQRFNVGEDCPVFDGLFEFCQLSTG  120
GSVAGAVKLNRQQTDMAVNWAGGLHHAKKSEASGFCYVNDIVLAILELLKYHQRVLYIDI  180
DIHHGDGVEEAFYTTDRVMTVSFHKYGEYFPGTGDLRDIGAGKGKYYAVNFPMRDGIDDE  240
SYGQIFKPIISKVMEMYQPSAVVLQCGADSLSGDRLGCFNLTVKGHAKCVEVVKTFNLPL  300
LMLGGGGYTIRNVARCWTYETAVALDCEIPNELPYNDYFEYFGPDFKLHISPSNMTNQNT  360
PEYMEKIKQRLFENLRMLPHAPGVQMQAIPEDAVHEDSGDEDGEDPDKR            405
```

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FIGURE 3A

LEGEND

Column headings from left to right are (A)'ATOMNumber', (B)'ATOMType', (C)'Amino Acid', (D)'Chain Identifier', (E)'Amino Acid Number', (F)'X Coordinate', (G)'Y Coordinate', (H)'Z Coordinate', (I)'Occupancy' (OCC), (J)'B factor' and (K) 'atom type'.

	A	B	C	D	E	F	G	H	I	J	K
ATOM	1	N	GLY	A	12	-10.934	21.875	-7.883	1.00	33.38	N
ATOM	2	CA	GLY	A	12	-11.554	22.914	-7.002	1.00	32.88	C
ATOM	3	C	GLY	A	12	-10.561	23.520	-6.029	1.00	35.11	C
ATOM	4	O	GLY	A	12	-9.351	23.417	-6.239	1.00	32.05	O
ATOM	5	N	LYS	A	13	-11.079	24.160	-4.978	1.00	34.94	N
ATOM	6	CA	LYS	A	13	-10.259	24.721	-3.902	1.00	35.84	C
ATOM	7	CB	LYS	A	13	-11.097	25.602	-2.975	1.00	35.62	C
ATOM	8	CG	LYS	A	13	-11.498	26.956	-3.561	1.00	39.36	C
ATOM	9	CD	LYS	A	13	-10.965	28.120	-2.737	1.00	45.43	C
ATOM	10	CE	LYS	A	13	-11.669	28.247	-1.394	1.00	50.50	C
ATOM	11	NZ	LYS	A	13	-11.738	29.662	-0.931	1.00	55.04	N
ATOM	12	C	LYS	A	13	-9.640	23.590	-3.095	1.00	37.36	C
ATOM	13	O	LYS	A	13	-10.219	22.508	-2.978	1.00	37.04	O
ATOM	14	N	LYS	A	14	-8.468	23.837	-2.525	1.00	36.44	N
ATOM	15	CA	LYS	A	14	-7.742	22.763	-1.861	1.00	36.93	C
ATOM	16	CB	LYS	A	14	-6.377	22.563	-2.524	1.00	43.40	C
ATOM	17	CG	LYS	A	14	-6.434	21.757	-3.823	1.00	47.48	C
ATOM	18	CD	LYS	A	14	-6.187	22.633	-5.041	1.00	53.17	C
ATOM	19	CE	LYS	A	14	-5.489	21.861	-6.154	1.00	53.51	C
ATOM	20	NZ	LYS	A	14	-4.068	21.523	-5.834	1.00	55.26	N
ATOM	21	C	LYS	A	14	-7.606	22.961	-0.355	1.00	33.27	C
ATOM	22	O	LYS	A	14	-7.598	24.094	0.135	1.00	30.92	O
ATOM	23	N	LYS	A	15	-7.522	21.850	0.372	1.00	28.55	N
ATOM	24	CA	LYS	A	15	-7.203	21.894	1.794	1.00	30.03	C
ATOM	25	CB	LYS	A	15	-7.570	20.584	2.493	1.00	31.98	C
ATOM	26	CG	LYS	A	15	-7.978	20.777	3.941	1.00	38.76	C
ATOM	27	CD	LYS	A	15	-7.800	19.517	4.765	1.00	41.81	C
ATOM	28	CE	LYS	A	15	-7.132	19.840	6.094	1.00	45.73	C
ATOM	29	NZ	LYS	A	15	-7.614	18.967	7.199	1.00	48.16	N
ATOM	30	C	LYS	A	15	-5.715	22.188	1.968	1.00	26.95	C
ATOM	31	O	LYS	A	15	-4.867	21.492	1.409	1.00	24.84	O
ATOM	32	N	VAL	A	16	-5.414	23.227	2.739	1.00	26.40	N
ATOM	33	CA	VAL	A	16	-4.033	23.639	2.992	1.00	23.42	C
ATOM	34	CB	VAL	A	16	-3.786	25.104	2.528	1.00	21.46	C
ATOM	35	CG1	VAL	A	16	-2.358	25.543	2.832	1.00	21.08	C
ATOM	36	CG2	VAL	A	16	-4.087	25.271	1.034	1.00	24.77	C
ATOM	37	C	VAL	A	16	-3.712	23.513	4.480	1.00	20.74	C
ATOM	38	O	VAL	A	16	-4.437	24.045	5.325	1.00	20.94	O
ATOM	39	N	CYS	A	17	-2.629	22.806	4.792	1.00	21.17	N
ATOM	40	CA	CYS	A	17	-2.110	22.737	6.152	1.00	18.02	C
ATOM	41	CB	CYS	A	17	-1.921	21.291	6.596	1.00	26.27	C
ATOM	42	SG	CYS	A	17	-3.490	20.425	6.865	1.00	32.95	S
ATOM	43	C	CYS	A	17	-0.785	23.484	6.181	1.00	20.58	C
ATOM	44	O	CYS	A	17	0.053	23.298	5.304	1.00	21.14	O
ATOM	45	N	TYR	A	18	-0.606	24.312	7.200	1.00	16.48	N
ATOM	46	CA	TYR	A	18	0.499	25.260	7.253	1.00	15.92	C
ATOM	47	CB	TYR	A	18	-0.088	26.667	7.066	1.00	18.52	C

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FIGURE 3B

ATOM	48	CG	TYR	A	18	0.783	27.857	7.402	1.00	17.99	C
ATOM	49	CD1	TYR	A	18	1.004	28.228	8.725	1.00	21.27	C
ATOM	50	CE1	TYR	A	18	1.775	29.334	9.039	1.00	22.51	C
ATOM	51	CZ	TYR	A	18	2.325	30.094	8.025	1.00	20.40	C
ATOM	52	OH	TYR	A	18	3.080	31.191	8.351	1.00	24.81	O
ATOM	53	CE2	TYR	A	18	2.110	29.763	6.701	1.00	20.69	C
ATOM	54	CD2	TYR	A	18	1.331	28.647	6.395	1.00	20.51	C
ATOM	55	C	TYR	A	18	1.271	25.095	8.567	1.00	17.76	C
ATOM	56	O	TYR	A	18	0.679	25.031	9.654	1.00	16.61	O
ATOM	57	N	TYR	A	19	2.598	25.025	8.458	1.00	15.66	N
ATOM	58	CA	TYR	A	19	3.449	24.724	9.601	1.00	16.08	C
ATOM	59	CB	TYR	A	19	4.357	23.528	9.300	1.00	19.83	C
ATOM	60	CG	TYR	A	19	3.556	22.260	9.158	1.00	23.49	C
ATOM	61	CD1	TYR	A	19	2.996	21.908	7.934	1.00	24.37	C
ATOM	62	CE1	TYR	A	19	2.233	20.765	7.798	1.00	28.59	C
ATOM	63	CZ	TYR	A	19	2.021	19.949	8.893	1.00	28.87	C
ATOM	64	OH	TYR	A	19	1.263	18.815	8.732	1.00	33.13	O
ATOM	65	CE2	TYR	A	19	2.559	20.270	10.128	1.00	26.44	C
ATOM	66	CD2	TYR	A	19	3.322	21.429	10.260	1.00	25.61	C
ATOM	67	C	TYR	A	19	4.269	25.925	10.029	1.00	20.65	C
ATOM	68	O	TYR	A	19	4.959	26.548	9.220	1.00	21.70	O
ATOM	69	N	TYR	A	20	4.175	26.245	11.311	1.00	19.23	N
ATOM	70	CA	TYR	A	20	4.866	27.402	11.852	1.00	20.20	C
ATOM	71	CB	TYR	A	20	4.019	28.661	11.654	1.00	18.21	C
ATOM	72	CG	TYR	A	20	4.614	29.908	12.270	1.00	24.20	C
ATOM	73	CD1	TYR	A	20	4.075	30.451	13.440	1.00	22.89	C
ATOM	74	CE1	TYR	A	20	4.614	31.605	14.016	1.00	24.32	C
ATOM	75	CZ	TYR	A	20	5.699	32.219	13.416	1.00	25.74	C
ATOM	76	OH	TYR	A	20	6.229	33.351	13.978	1.00	26.57	O
ATOM	77	CE2	TYR	A	20	6.257	31.699	12.254	1.00	21.08	C
ATOM	78	CD2	TYR	A	20	5.716	30.546	11.686	1.00	18.99	C
ATOM	79	C	TYR	A	20	5.181	27.215	13.322	1.00	20.24	C
ATOM	80	O	TYR	A	20	4.327	26.789	14.103	1.00	20.13	O
ATOM	81	N	ASP	A	21	6.419	27.528	13.686	1.00	20.92	N
ATOM	82	CA	ASP	A	21	6.807	27.609	15.084	1.00	21.80	C
ATOM	83	CB	ASP	A	21	7.927	26.620	15.411	1.00	24.77	C
ATOM	84	CG	ASP	A	21	8.132	26.460	16.901	1.00	27.98	C
ATOM	85	OD1	ASP	A	21	8.099	25.314	17.401	1.00	29.26	O
ATOM	86	OD2	ASP	A	21	8.307	27.436	17.656	1.00	28.43	O
ATOM	87	C	ASP	A	21	7.237	29.023	15.423	1.00	26.07	C
ATOM	88	O	ASP	A	21	8.187	29.545	14.836	1.00	26.99	O
ATOM	89	N	GLY	A	22	6.540	29.630	16.384	1.00	27.58	N
ATOM	90	CA	GLY	A	22	6.792	31.004	16.797	1.00	31.26	C
ATOM	91	C	GLY	A	22	8.191	31.288	17.321	1.00	33.32	C
ATOM	92	O	GLY	A	22	8.607	32.448	17.384	1.00	39.03	O
ATOM	93	N	ASP	A	23	8.916	30.231	17.684	1.00	26.95	N
ATOM	94	CA	ASP	A	23	10.280	30.350	18.200	1.00	28.38	C
ATOM	95	CB	ASP	A	23	10.626	29.143	19.079	1.00	31.55	C
ATOM	96	CG	ASP	A	23	9.761	29.055	20.324	1.00	40.64	C
ATOM	97	OD1	ASP	A	23	9.641	27.941	20.888	1.00	43.66	O
ATOM	98	OD2	ASP	A	23	9.166	30.041	20.815	1.00	40.36	O
ATOM	99	C	ASP	A	23	11.331	30.495	17.099	1.00	26.66	C
ATOM	100	O	ASP	A	23	12.457	30.933	17.373	1.00	24.70	O
ATOM	101	N	ILE	A	24	10.971	30.119	15.868	1.00	26.24	N
ATOM	102	CA	ILE	A	24	11.893	30.169	14.724	1.00	27.74	C
ATOM	103	CB	ILE	A	24	11.192	29.692	13.407	1.00	31.85	C
ATOM	104	CG1	ILE	A	24	12.223	29.270	12.353	1.00	33.00	C

FIGURE 3C

ATOM	105	CD1	ILE	A	24	12.745	27.849	12.528	1.00	36.31	C
ATOM	106	CG2	ILE	A	24	10.254	30.772	12.846	1.00	30.58	C
ATOM	107	C	ILE	A	24	12.554	31.536	14.522	1.00	25.65	C
ATOM	108	O	ILE	A	24	13.734	31.611	14.184	1.00	27.69	O
ATOM	109	N	GLY	A	25	11.788	32.606	14.730	1.00	27.57	N
ATOM	110	CA	GLY	A	25	12.267	33.960	14.510	1.00	28.06	C
ATOM	111	C	GLY	A	25	13.326	34.442	15.486	1.00	32.62	C
ATOM	112	O	GLY	A	25	13.925	35.491	15.266	1.00	33.18	O
ATOM	113	N	ASN	A	26	13.554	33.680	16.556	1.00	29.29	N
ATOM	114	CA	ASN	A	26	14.520	34.047	17.588	1.00	32.21	C
ATOM	115	CB	ASN	A	26	14.039	33.584	18.969	1.00	36.54	C
ATOM	116	CG	ASN	A	26	12.740	34.256	19.399	1.00	38.26	C
ATOM	117	OD1	ASN	A	26	12.432	35.374	18.984	1.00	40.40	O
ATOM	118	ND2	ASN	A	26	11.975	33.572	20.243	1.00	41.23	N
ATOM	119	C	ASN	A	26	15.936	33.524	17.329	1.00	29.78	C
ATOM	120	O	ASN	A	26	16.870	33.858	18.062	1.00	29.28	O
ATOM	121	N	TYR	A	27	16.093	32.694	16.302	1.00	22.93	N
ATOM	122	CA	TYR	A	27	17.409	32.170	15.957	1.00	24.38	C
ATOM	123	CB	TYR	A	27	17.289	30.822	15.240	1.00	23.89	C
ATOM	124	CG	TYR	A	27	16.742	29.744	16.153	1.00	25.58	C
ATOM	125	CD1	TYR	A	27	15.384	29.428	16.155	1.00	26.62	C
ATOM	126	CE1	TYR	A	27	14.873	28.456	17.005	1.00	27.47	C
ATOM	127	CZ	TYR	A	27	15.717	27.795	17.875	1.00	30.04	C
ATOM	128	OH	TYR	A	27	15.214	26.829	18.720	1.00	30.17	O
ATOM	129	CE2	TYR	A	27	17.068	28.100	17.904	1.00	28.43	C
ATOM	130	CD2	TYR	A	27	17.573	29.070	17.044	1.00	25.97	C
ATOM	131	C	TYR	A	27	18.163	33.204	15.130	1.00	25.10	C
ATOM	132	O	TYR	A	27	17.574	33.889	14.301	1.00	25.59	O
ATOM	133	N	TYR	A	28	19.464	33.316	15.372	1.00	25.63	N
ATOM	134	CA	TYR	A	28	20.260	34.403	14.817	1.00	26.96	C
ATOM	135	CB	TYR	A	28	20.485	35.464	15.901	1.00	26.97	C
ATOM	136	CG	TYR	A	28	21.145	36.749	15.444	1.00	31.50	C
ATOM	137	CD1	TYR	A	28	20.567	37.549	14.458	1.00	32.89	C
ATOM	138	CE1	TYR	A	28	21.175	38.745	14.052	1.00	37.38	C
ATOM	139	CZ	TYR	A	28	22.365	39.140	14.648	1.00	38.32	C
ATOM	140	OH	TYR	A	28	22.977	40.311	14.261	1.00	42.88	O
ATOM	141	CE2	TYR	A	28	22.950	38.363	15.631	1.00	37.22	C
ATOM	142	CD2	TYR	A	28	22.338	37.178	16.026	1.00	33.60	C
ATOM	143	C	TYR	A	28	21.591	33.876	14.300	1.00	26.09	C
ATOM	144	O	TYR	A	28	22.396	33.350	15.068	1.00	25.01	O
ATOM	145	N	TYR	A	29	21.816	34.018	12.996	1.00	23.10	N
ATOM	146	CA	TYR	A	29	23.039	33.524	12.365	1.00	24.24	C
ATOM	147	CB	TYR	A	29	22.902	33.517	10.842	1.00	20.78	C
ATOM	148	CG	TYR	A	29	22.228	32.300	10.239	1.00	21.17	C
ATOM	149	CD1	TYR	A	29	22.904	31.505	9.312	1.00	20.94	C
ATOM	150	CE1	TYR	A	29	22.299	30.392	8.732	1.00	21.73	C
ATOM	151	CZ	TYR	A	29	20.996	30.057	9.068	1.00	20.67	C
ATOM	152	OH	TYR	A	29	20.414	28.959	8.465	1.00	18.73	O
ATOM	153	CE2	TYR	A	29	20.292	30.826	9.982	1.00	22.03	C
ATOM	154	CD2	TYR	A	29	20.911	31.955	10.564	1.00	22.31	C
ATOM	155	C	TYR	A	29	24.280	34.331	12.759	1.00	24.93	C
ATOM	156	O	TYR	A	29	25.397	33.825	12.686	1.00	30.10	O
ATOM	157	N	GLY	A	30	24.083	35.581	13.170	1.00	25.85	N
ATOM	158	CA	GLY	A	30	25.185	36.421	13.601	1.00	24.94	C
ATOM	159	C	GLY	A	30	25.193	37.753	12.891	1.00	27.68	C
ATOM	160	O	GLY	A	30	24.529	37.924	11.865	1.00	24.31	O
ATOM	161	N	GLN	A	31	25.954	38.698	13.437	1.00	32.35	N

FIGURE 3D

ATOM	162	CA	GLN	A	31	26.024	40.056	12.903	1.00	36.84	C
ATOM	163	CB	GLN	A	31	26.956	40.917	13.761	1.00	42.74	C
ATOM	164	CG	GLN	A	31	26.826	42.411	13.524	1.00	47.99	C
ATOM	165	CD	GLN	A	31	27.419	43.229	14.657	1.00	53.94	C
ATOM	166	OE1	GLN	A	31	28.638	43.245	14.847	1.00	54.68	O
ATOM	167	NE2	GLN	A	31	26.560	43.904	15.416	1.00	54.72	N
ATOM	168	C	GLN	A	31	26.490	40.067	11.451	1.00	33.05	C
ATOM	169	O	GLN	A	31	27.519	39.483	11.120	1.00	34.31	O
ATOM	170	N	GLY	A	32	25.718	40.723	10.594	1.00	31.96	N
ATOM	171	CA	GLY	A	32	26.056	40.827	9.187	1.00	32.47	C
ATOM	172	C	GLY	A	32	25.672	39.645	8.305	1.00	29.76	C
ATOM	173	O	GLY	A	32	25.779	39.743	7.086	1.00	28.79	O
ATOM	174	N	HIS	A	33	25.237	38.532	8.898	1.00	27.05	N
ATOM	175	CA	HIS	A	33	24.827	37.369	8.102	1.00	24.71	C
ATOM	176	CB	HIS	A	33	24.767	36.099	8.952	1.00	23.18	C
ATOM	177	CG	HIS	A	33	24.859	34.844	8.144	1.00	22.69	C
ATOM	178	ND1	HIS	A	33	23.854	34.432	7.292	1.00	18.66	N
ATOM	179	CE1	HIS	A	33	24.223	33.313	6.695	1.00	22.66	C
ATOM	180	NE2	HIS	A	33	25.430	32.986	7.125	1.00	21.22	N
ATOM	181	CD2	HIS	A	33	25.851	33.930	8.029	1.00	22.71	C
ATOM	182	C	HIS	A	33	23.476	37.619	7.422	1.00	21.92	C
ATOM	183	O	HIS	A	33	22.515	37.998	8.088	1.00	22.85	O
ATOM	184	N	PRO	A	34	23.405	37.422	6.103	1.00	22.53	N
ATOM	185	CA	PRO	A	34	22.191	37.750	5.345	1.00	22.87	C
ATOM	186	CB	PRO	A	34	22.626	37.581	3.883	1.00	25.21	C
ATOM	187	CG	PRO	A	34	23.781	36.651	3.927	1.00	22.98	C
ATOM	188	CD	PRO	A	34	24.477	36.903	5.232	1.00	21.75	C
ATOM	189	C	PRO	A	34	20.980	36.866	5.653	1.00	17.77	C
ATOM	190	O	PRO	A	34	19.853	37.304	5.400	1.00	22.49	O
ATOM	191	N	MET	A	35	21.197	35.666	6.186	1.00	16.87	N
ATOM	192	CA	MET	A	35	20.076	34.770	6.474	1.00	21.27	C
ATOM	193	CB	MET	A	35	20.513	33.303	6.462	1.00	19.13	C
ATOM	194	CG	MET	A	35	19.398	32.310	6.801	1.00	22.02	C
ATOM	195	SD	MET	A	35	17.972	32.372	5.677	1.00	26.90	S
ATOM	196	CE	MET	A	35	18.493	31.246	4.395	1.00	23.80	C
ATOM	197	C	MET	A	35	19.447	35.148	7.814	1.00	19.95	C
ATOM	198	O	MET	A	35	20.097	35.075	8.861	1.00	20.46	O
ATOM	199	N	LYS	A	36	18.181	35.552	7.766	1.00	19.74	N
ATOM	200	CA	LYS	A	36	17.497	36.083	8.937	1.00	18.06	C
ATOM	201	CB	LYS	A	36	17.205	37.577	8.742	1.00	20.07	C
ATOM	202	CG	LYS	A	36	18.481	38.434	8.710	1.00	25.82	C
ATOM	203	CD	LYS	A	36	18.240	39.814	8.146	1.00	30.73	C
ATOM	204	CE	LYS	A	36	19.559	40.556	7.986	1.00	34.11	C
ATOM	205	NZ	LYS	A	36	19.345	42.024	7.846	1.00	42.02	N
ATOM	206	C	LYS	A	36	16.210	35.301	9.194	1.00	19.19	C
ATOM	207	O	LYS	A	36	15.195	35.574	8.562	1.00	17.85	O
ATOM	208	N	PRO	A	37	16.256	34.316	10.098	1.00	19.64	N
ATOM	209	CA	PRO	A	37	15.077	33.498	10.423	1.00	18.87	C
ATOM	210	CB	PRO	A	37	15.569	32.650	11.595	1.00	19.36	C
ATOM	211	CG	PRO	A	37	17.031	32.469	11.283	1.00	18.04	C
ATOM	212	CD	PRO	A	37	17.447	33.867	10.848	1.00	19.76	C
ATOM	213	C	PRO	A	37	13.837	34.304	10.807	1.00	21.11	C
ATOM	214	O	PRO	A	37	12.721	33.817	10.635	1.00	19.76	O
ATOM	215	N	HIS	A	38	14.056	35.520	11.305	1.00	20.44	N
ATOM	216	CA	HIS	A	38	13.014	36.514	11.574	1.00	24.68	C
ATOM	217	CB	HIS	A	38	13.706	37.832	11.959	1.00	30.82	C
ATOM	218	CG	HIS	A	38	12.774	38.946	12.313	1.00	37.66	C

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FIGURE 3E

ATOM	219	ND1	HIS	A	38	12.862	40.196	11.737	1.00	39.92	N
ATOM	220	CE1	HIS	A	38	11.928	40.979	12.245	1.00	40.67	C
ATOM	221	NE2	HIS	A	38	11.244	40.286	13.137	1.00	42.93	N
ATOM	222	CD2	HIS	A	38	11.754	39.012	13.201	1.00	42.01	C
ATOM	223	C	HIS	A	38	12.051	36.727	10.396	1.00	21.58	C
ATOM	224	O	HIS	A	38	10.869	37.030	10.594	1.00	19.93	O
ATOM	225	N	ARG	A	39	12.540	36.556	9.168	1.00	19.61	N
ATOM	226	CA	ARG	A	39	11.668	36.671	7.994	1.00	15.49	C
ATOM	227	CB	ARG	A	39	12.465	36.510	6.688	1.00	17.51	C
ATOM	228	CG	ARG	A	39	12.875	35.079	6.395	1.00	16.16	C
ATOM	229	CD	ARG	A	39	14.171	34.884	5.591	1.00	19.34	C
ATOM	230	NE	ARG	A	39	14.395	33.444	5.551	1.00	18.36	N
ATOM	231	CZ	ARG	A	39	14.563	32.723	4.462	1.00	22.50	C
ATOM	232	NH1	ARG	A	39	14.641	33.302	3.266	1.00	21.04	N
ATOM	233	NH2	ARG	A	39	14.679	31.406	4.577	1.00	18.37	N
ATOM	234	C	ARG	A	39	10.463	35.701	8.027	1.00	15.22	C
ATOM	235	O	ARG	A	39	9.421	36.001	7.453	1.00	16.67	O
ATOM	236	N	ILE	A	40	10.610	34.549	8.687	1.00	16.84	N
ATOM	237	CA	ILE	A	40	9.507	33.577	8.802	1.00	15.88	C
ATOM	238	CB	ILE	A	40	10.006	32.200	9.352	1.00	18.90	C
ATOM	239	CG1	ILE	A	40	11.233	31.682	8.582	1.00	19.03	C
ATOM	240	CD1	ILE	A	40	11.060	31.608	7.057	1.00	22.57	C
ATOM	241	CG2	ILE	A	40	8.868	31.145	9.357	1.00	19.23	C
ATOM	242	C	ILE	A	40	8.408	34.135	9.708	1.00	19.64	C
ATOM	243	O	ILE	A	40	7.212	33.972	9.439	1.00	17.38	O
ATOM	244	N	ARG	A	41	8.831	34.772	10.796	1.00	17.65	N
ATOM	245	CA	ARG	A	41	7.915	35.409	11.736	1.00	18.92	C
ATOM	246	CB	ARG	A	41	8.670	35.883	12.984	1.00	17.52	C
ATOM	247	CG	ARG	A	41	7.772	36.434	14.105	1.00	26.88	C
ATOM	248	CD	ARG	A	41	8.451	36.496	15.481	1.00	33.14	C
ATOM	249	NE	ARG	A	41	9.806	37.042	15.396	1.00	41.48	N
ATOM	250	CZ	ARG	A	41	10.624	37.237	16.431	1.00	46.61	C
ATOM	251	NH1	ARG	A	41	10.243	36.932	17.667	1.00	46.68	N
ATOM	252	NH2	ARG	A	41	11.836	37.742	16.225	1.00	47.05	N
ATOM	253	C	ARG	A	41	7.198	36.578	11.064	1.00	17.60	C
ATOM	254	O	ARG	A	41	6.000	36.766	11.261	1.00	17.02	O
ATOM	255	N	MET	A	42	7.936	37.353	10.266	1.00	17.83	N
ATOM	256	CA	MET	A	42	7.349	38.440	9.475	1.00	17.23	C
ATOM	257	CB	MET	A	42	8.429	39.170	8.683	1.00	17.73	C
ATOM	258	CG	MET	A	42	9.261	40.137	9.494	1.00	24.20	C
ATOM	259	SD	MET	A	42	10.568	40.862	8.460	1.00	29.51	S
ATOM	260	CE	MET	A	42	9.588	41.776	7.275	1.00	17.90	C
ATOM	261	C	MET	A	42	6.282	37.935	8.514	1.00	18.80	C
ATOM	262	O	MET	A	42	5.180	38.491	8.447	1.00	16.34	O
ATOM	263	N	THR	A	43	6.622	36.888	7.758	1.00	17.87	N
ATOM	264	CA	THR	A	43	5.676	36.247	6.847	1.00	16.55	C
ATOM	265	CB	THR	A	43	6.324	35.000	6.218	1.00	17.33	C
ATOM	266	OG1	THR	A	43	7.452	35.392	5.431	1.00	17.62	O
ATOM	267	CG2	THR	A	43	5.373	34.333	5.232	1.00	16.92	C
ATOM	268	C	THR	A	43	4.401	35.839	7.560	1.00	15.77	C
ATOM	269	O	THR	A	43	3.293	36.169	7.148	1.00	17.70	O
ATOM	270	N	HIS	A	44	4.569	35.113	8.682	1.00	16.86	N
ATOM	271	CA	HIS	A	44	3.444	34.637	9.479	1.00	18.12	C
ATOM	272	CB	HIS	A	44	3.945	33.839	10.679	1.00	18.26	C
ATOM	273	CG	HIS	A	44	2.851	33.160	11.440	1.00	21.55	C
ATOM	274	ND1	HIS	A	44	2.139	32.098	10.925	1.00	20.89	N
ATOM	275	CE1	HIS	A	44	1.238	31.705	11.808	1.00	22.53	C

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FIGURE 3F

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ATOM    276  NE2 HIS A  44       1.340  32.474  12.878  1.00 21.32           N
ATOM    277  CD2 HIS A  44       2.338  33.396  12.671  1.00 23.23           C
ATOM    278  C   HIS A  44       2.568  35.783   9.988  1.00 14.96           C
ATOM    279  O   HIS A  44       1.347  35.714   9.925  1.00 15.26           O
ATOM    280  N   ASN A  45       3.206  36.827  10.499  1.00 17.89           N
ATOM    281  CA  ASN A  45       2.468  37.982  11.020  1.00 18.49           C
ATOM    282  CB  ASN A  45       3.421  38.954  11.701  1.00 19.18           C
ATOM    283  CG  ASN A  45       2.690  40.006  12.499  1.00 19.96           C
ATOM    284  OD1 ASN A  45       2.550  41.137  12.058  1.00 20.10           O
ATOM    285  ND2 ASN A  45       2.197  39.627  13.672  1.00 21.68           N
ATOM    286  C   ASN A  45       1.652  38.694   9.944  1.00 16.41           C
ATOM    287  O   ASN A  45       0.512  39.108  10.178  1.00 16.69           O
ATOM    288  N   LEU A  46       2.231  38.824   8.754  1.00 15.77           N
ATOM    289  CA  LEU A  46       1.524  39.445   7.638  1.00 18.43           C
ATOM    290  CB  LEU A  46       2.483  39.657   6.459  1.00 18.86           C
ATOM    291  CG  LEU A  46       1.972  40.468   5.268  1.00 20.80           C
ATOM    292  CD1 LEU A  46       1.292  41.790   5.699  1.00 22.33           C
ATOM    293  CD2 LEU A  46       3.128  40.721   4.310  1.00 16.54           C
ATOM    294  C   LEU A  46       0.325  38.587   7.238  1.00 20.27           C
ATOM    295  O   LEU A  46      -0.786  39.082   7.072  1.00 16.74           O
ATOM    296  N   LEU A  47       0.582  37.288   7.107  1.00 18.76           N
ATOM    297  CA  LEU A  47      -0.410  36.252   6.857  1.00 23.38           C
ATOM    298  CB  LEU A  47       0.297  34.916   7.069  1.00 29.13           C
ATOM    299  CG  LEU A  47       0.089  33.722   6.182  1.00 34.93           C
ATOM    300  CD1 LEU A  47       1.443  33.224   5.721  1.00 30.00           C
ATOM    301  CD2 LEU A  47      -0.595  32.700   7.045  1.00 36.15           C
ATOM    302  C   LEU A  47      -1.605  36.319   7.804  1.00 22.40           C
ATOM    303  O   LEU A  47      -2.768  36.278   7.372  1.00 22.88           O
ATOM    304  N   LEU A  48      -1.310  36.401   9.098  1.00 21.20           N
ATOM    305  CA  LEU A  48      -2.340  36.469  10.133  1.00 23.56           C
ATOM    306  CB  LEU A  48      -1.713  36.414  11.535  1.00 22.57           C
ATOM    307  CG  LEU A  48      -1.069  35.092  11.967  1.00 26.40           C
ATOM    308  CD1 LEU A  48      -0.596  35.173  13.410  1.00 28.25           C
ATOM    309  CD2 LEU A  48      -2.007  33.898  11.763  1.00 30.15           C
ATOM    310  C   LEU A  48      -3.182  37.729   9.994  1.00 22.55           C
ATOM    311  O   LEU A  48      -4.405  37.690  10.154  1.00 20.82           O
ATOM    312  N   ASN A  49      -2.525  38.842   9.680  1.00 20.25           N
ATOM    313  CA  ASN A  49      -3.223  40.118   9.578  1.00 20.48           C
ATOM    314  CB  ASN A  49      -2.251  41.277   9.754  1.00 18.74           C
ATOM    315  CG  ASN A  49      -1.943  41.519  11.205  1.00 21.43           C
ATOM    316  OD1 ASN A  49      -2.803  41.994  11.954  1.00 19.85           O
ATOM    317  ND2 ASN A  49      -0.738  41.148  11.631  1.00 17.29           N
ATOM    318  C   ASN A  49      -4.084  40.279   8.339  1.00 24.12           C
ATOM    319  O   ASN A  49      -5.007  41.096   8.318  1.00 22.21           O
ATOM    320  N   TYR A  50      -3.785  39.485   7.317  1.00 19.55           N
ATOM    321  CA  TYR A  50      -4.646  39.376   6.150  1.00 24.04           C
ATOM    322  CB  TYR A  50      -3.843  38.846   4.969  1.00 18.75           C
ATOM    323  CG  TYR A  50      -3.283  39.901   4.042  1.00 19.07           C
ATOM    324  CD1 TYR A  50      -4.124  40.687   3.259  1.00 17.18           C
ATOM    325  CE1 TYR A  50      -3.611  41.634   2.385  1.00 18.52           C
ATOM    326  CZ  TYR A  50      -2.241  41.788   2.283  1.00 15.23           C
ATOM    327  OH  TYR A  50      -1.726  42.714   1.422  1.00 17.51           O
ATOM    328  CE2 TYR A  50      -1.384  41.007   3.039  1.00 17.62           C
ATOM    329  CD2 TYR A  50      -1.909  40.076   3.916  1.00 14.97           C
ATOM    330  C   TYR A  50      -5.838  38.448   6.415  1.00 24.79           C
ATOM    331  O   TYR A  50      -6.763  38.365   6.603  1.00 28.69           O
ATOM    332  N   GLY A  51      -5.801  37.745   7.542  1.00 22.50           N
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FIGURE 3G

ATOM	333	CA	GLY	A	51	-6.876	36.851	7.948	1.00	25.51	C
ATOM	334	C	GLY	A	51	-6.859	35.475	7.299	1.00	27.37	C
ATOM	335	O	GLY	A	51	-7.883	34.786	7.272	1.00	28.23	O
ATOM	336	N	LEU	A	52	-5.697	35.057	6.798	1.00	23.48	N
ATOM	337	CA	LEU	A	52	-5.590	33.787	6.076	1.00	21.82	C
ATOM	338	CB	LEU	A	52	-4.338	33.770	5.182	1.00	22.63	C
ATOM	339	CG	LEU	A	52	-4.271	34.858	4.096	1.00	25.27	C
ATOM	340	CD1	LEU	A	52	-2.984	34.748	3.273	1.00	26.86	C
ATOM	341	CD2	LEU	A	52	-5.483	34.843	3.177	1.00	26.70	C
ATOM	342	C	LEU	A	52	-5.662	32.553	6.974	1.00	22.25	C
ATOM	343	O	LEU	A	52	-5.921	31.443	6.490	1.00	27.62	O
ATOM	344	N	TYR	A	53	-5.468	32.750	8.278	1.00	21.13	N
ATOM	345	CA	TYR	A	53	-5.650	31.688	9.270	1.00	26.98	C
ATOM	346	CB	TYR	A	53	-5.264	32.171	10.678	1.00	28.47	C
ATOM	347	CG	TYR	A	53	-6.126	33.296	11.219	1.00	31.97	C
ATOM	348	CD1	TYR	A	53	-7.239	33.029	12.018	1.00	35.07	C
ATOM	349	CE1	TYR	A	53	-8.038	34.064	12.514	1.00	35.75	C
ATOM	350	CZ	TYR	A	53	-7.712	35.378	12.214	1.00	37.70	C
ATOM	351	OH	TYR	A	53	-8.486	36.407	12.695	1.00	40.14	O
ATOM	352	CE2	TYR	A	53	-6.607	35.665	11.428	1.00	34.10	C
ATOM	353	CD2	TYR	A	53	-5.823	34.628	10.937	1.00	30.37	C
ATOM	354	C	TYR	A	53	-7.081	31.143	9.273	1.00	29.52	C
ATOM	355	O	TYR	A	53	-7.314	30.002	9.668	1.00	31.10	O
ATOM	356	N	ARG	A	54	-8.030	31.965	8.832	1.00	29.73	N
ATOM	357	CA	ARG	A	54	-9.429	31.546	8.702	1.00	33.07	C
ATOM	358	CB	ARG	A	54	-10.325	32.753	8.402	1.00	38.00	C
ATOM	359	CG	ARG	A	54	-10.607	33.640	9.605	1.00	45.73	C
ATOM	360	CD	ARG	A	54	-11.625	34.738	9.339	1.00	53.38	C
ATOM	361	NE	ARG	A	54	-11.010	36.066	9.348	1.00	59.05	N
ATOM	362	CZ	ARG	A	54	-11.575	37.168	8.859	1.00	62.15	C
ATOM	363	NH1	ARG	A	54	-12.784	37.124	8.309	1.00	63.52	N
ATOM	364	NH2	ARG	A	54	-10.925	38.323	8.920	1.00	62.31	N
ATOM	365	C	ARG	A	54	-9.650	30.468	7.630	1.00	33.81	C
ATOM	366	O	ARG	A	54	-10.668	29.772	7.655	1.00	32.94	O
ATOM	367	N	LYS	A	55	-8.705	30.333	6.699	1.00	29.14	N
ATOM	368	CA	LYS	A	55	-8.886	29.469	5.530	1.00	30.85	C
ATOM	369	CB	LYS	A	55	-8.616	30.244	4.232	1.00	35.92	C
ATOM	370	CG	LYS	A	55	-9.214	31.644	4.183	1.00	42.07	C
ATOM	371	CD	LYS	A	55	-10.415	31.706	3.257	1.00	45.41	C
ATOM	372	CE	LYS	A	55	-10.921	33.136	3.113	1.00	51.15	C
ATOM	373	NZ	LYS	A	55	-11.676	33.594	4.321	1.00	51.35	N
ATOM	374	C	LYS	A	55	-8.036	28.198	5.550	1.00	28.94	C
ATOM	375	O	LYS	A	55	-8.193	27.332	4.685	1.00	27.40	O
ATOM	376	N	MET	A	56	-7.135	28.084	6.520	1.00	28.92	N
ATOM	377	CA	MET	A	56	-6.244	26.923	6.579	1.00	28.44	C
ATOM	378	CB	MET	A	56	-4.923	27.206	5.849	1.00	31.07	C
ATOM	379	CG	MET	A	56	-4.334	28.556	6.139	1.00	31.85	C
ATOM	380	SD	MET	A	56	-2.661	28.791	5.491	1.00	29.08	S
ATOM	381	CE	MET	A	56	-2.114	29.915	6.690	1.00	25.68	C
ATOM	382	C	MET	A	56	-5.970	26.475	8.001	1.00	27.32	C
ATOM	383	O	MET	A	56	-6.130	27.247	8.943	1.00	31.86	O
ATOM	384	N	GLU	A	57	-5.557	25.219	8.147	1.00	27.77	N
ATOM	385	CA	GLU	A	57	-5.182	24.681	9.446	1.00	28.19	C
ATOM	386	CB	GLU	A	57	-5.350	23.159	9.466	1.00	33.68	C
ATOM	387	CG	GLU	A	57	-6.649	22.675	10.092	1.00	43.84	C
ATOM	388	CD	GLU	A	57	-7.179	21.416	9.429	1.00	48.30	C
ATOM	389	OE1	GLU	A	57	-6.475	20.383	9.450	1.00	49.75	O

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FIGURE 3H

ATOM	390	OE2	GLU	A	57	-8.302	21.458	8.885	1.00	53.23	O
ATOM	391	C	GLU	A	57	-3.733	25.046	9.714	1.00	27.14	C
ATOM	392	O	GLU	A	57	-2.867	24.806	8.871	1.00	26.43	O
ATOM	393	N	ILE	A	58	-3.470	25.629	10.879	1.00	23.96	N
ATOM	394	CA	ILE	A	58	-2.103	25.966	11.255	1.00	23.30	C
ATOM	395	CB	ILE	A	58	-2.005	27.439	11.729	1.00	25.42	C
ATOM	396	CG1	ILE	A	58	-2.341	28.389	10.572	1.00	26.37	C
ATOM	397	CD1	ILE	A	58	-2.385	29.866	10.965	1.00	28.44	C
ATOM	398	CG2	ILE	A	58	-0.611	27.740	12.293	1.00	21.56	C
ATOM	399	C	ILE	A	58	-1.606	24.985	12.317	1.00	23.73	C
ATOM	400	O	ILE	A	58	-2.246	24.793	13.354	1.00	25.27	O
ATOM	401	N	TYR	A	59	-0.478	24.347	12.028	1.00	21.51	N
ATOM	402	CA	TYR	A	59	0.137	23.368	12.915	1.00	21.20	C
ATOM	403	CB	TYR	A	59	0.285	22.025	12.205	1.00	24.78	C
ATOM	404	CG	TYR	A	59	-1.015	21.329	11.893	1.00	30.40	C
ATOM	405	CD1	TYR	A	59	-1.638	20.517	12.842	1.00	35.62	C
ATOM	406	CE1	TYR	A	59	-2.834	19.866	12.559	1.00	37.26	C
ATOM	407	CZ	TYR	A	59	-3.417	20.024	11.314	1.00	39.08	C
ATOM	408	OH	TYR	A	59	-4.600	19.381	11.028	1.00	43.75	O
ATOM	409	CE2	TYR	A	59	-2.816	20.820	10.352	1.00	37.62	C
ATOM	410	CD2	TYR	A	59	-1.616	21.466	10.645	1.00	34.35	C
ATOM	411	C	TYR	A	59	1.516	23.818	13.337	1.00	22.46	C
ATOM	412	O	TYR	A	59	2.257	24.415	12.553	1.00	21.64	O
ATOM	413	N	ARG	A	60	1.875	23.504	14.573	1.00	20.21	N
ATOM	414	CA	ARG	A	60	3.241	23.689	15.018	1.00	22.73	C
ATOM	415	CB	ARG	A	60	3.264	23.993	16.509	1.00	27.65	C
ATOM	416	CG	ARG	A	60	4.580	24.532	17.001	1.00	26.76	C
ATOM	417	CD	ARG	A	60	4.622	24.755	18.496	1.00	28.10	C
ATOM	418	NE	ARG	A	60	5.630	25.743	18.837	1.00	26.39	N
ATOM	419	CZ	ARG	A	60	5.473	26.706	19.727	1.00	28.18	C
ATOM	420	NH1	ARG	A	60	4.335	26.818	20.409	1.00	27.35	N
ATOM	421	NH2	ARG	A	60	6.464	27.560	19.935	1.00	26.95	N
ATOM	422	C	ARG	A	60	4.017	22.408	14.702	1.00	24.37	C
ATOM	423	O	ARG	A	60	3.558	21.318	15.029	1.00	23.42	O
ATOM	424	N	PRO	A	61	5.174	22.523	14.047	1.00	26.28	N
ATOM	425	CA	PRO	A	61	5.977	21.337	13.730	1.00	26.84	C
ATOM	426	CB	PRO	A	61	7.118	21.910	12.887	1.00	24.71	C
ATOM	427	CG	PRO	A	61	7.239	23.321	13.333	1.00	30.02	C
ATOM	428	CD	PRO	A	61	5.818	23.761	13.572	1.00	24.64	C
ATOM	429	C	PRO	A	61	6.547	20.716	15.004	1.00	23.34	C
ATOM	430	O	PRO	A	61	6.787	21.431	15.975	1.00	22.07	O
ATOM	431	N	HIS	A	62	6.756	19.404	14.992	1.00	22.91	N
ATOM	432	CA	HIS	A	62	7.558	18.767	16.024	1.00	22.92	C
ATOM	433	CB	HIS	A	62	7.326	17.253	16.020	1.00	25.21	C
ATOM	434	CG	HIS	A	62	7.839	16.571	14.791	1.00	23.64	C
ATOM	435	ND1	HIS	A	62	7.200	16.649	13.573	1.00	26.11	N
ATOM	436	CE1	HIS	A	62	7.882	15.960	12.676	1.00	27.75	C
ATOM	437	NE2	HIS	A	62	8.946	15.447	13.266	1.00	24.33	N
ATOM	438	CD2	HIS	A	62	8.941	15.810	14.590	1.00	23.21	C
ATOM	439	C	HIS	A	62	9.027	19.079	15.725	1.00	24.85	C
ATOM	440	O	HIS	A	62	9.372	19.485	14.609	1.00	23.85	O
ATOM	441	N	LYS	A	63	9.885	18.897	16.719	1.00	21.34	N
ATOM	442	CA	LYS	A	63	11.321	18.931	16.489	1.00	21.51	C
ATOM	443	CB	LYS	A	63	12.074	19.240	17.781	1.00	22.01	C
ATOM	444	CG	LYS	A	63	11.922	20.661	18.283	1.00	27.78	C
ATOM	445	CD	LYS	A	63	12.644	20.834	19.610	1.00	35.80	C
ATOM	446	CE	LYS	A	63	12.118	22.038	20.381	1.00	40.35	C